

RESULTS FROM RFETS BUILDING 771 PROJECT

Activity Name	Driver	Pre Review M-H/Yr	Post Review Est M-H/Yr	Est Potential Reallocable M-H/Yr Savings	Est Cost Savings @\$50/Hr	Pre Review Frequency	Suggested Frequency	Bin Location	Resource Organization
Contamination survey in/around Gloveboxes not in use	None	364	0	364	\$18,200	Semi-annually	N/A	Cancellation	Radiation Protection
Contamination Survey upon receipt of rad materials	None	0	0	0	\$0	As required	N/A	Cancellation	Radiation Protection
A/S - Posting areas with potential > 10% DAC	10CFR835	2080	0	2080	\$104,000	As required	N/A	Cancellation	Radiation Protection
A/S - Use of respirators where potential for > 10% DAC	10CFR835 RCM Art 555	2080	0	2080	\$104,000	As required	N/A	Cancellation	Radiation Protection
Gamma Survey Prior to and upon completion of the work involving rad material	None	0	0	0	\$0	As required	N/A	Cancellation	Radiation Protection
Rad survey upon receipt of rad materials	None	0	0	0	\$0	As required	N/A	Cancellation	Radiation Protection
Gamma Survey- Upon initial entry after a source has been retracted into its shield.	None	8	0	8	\$400	As required	N/A	Cancellation	Radiation Protection
Gamma surveys in routinely occupied areas outside RBA's, but within facility	None	24	0	24	\$1,200	Semi-annually	N/A	Cancellation	Radiation Protection
A/S When Vacuum Cleaner is Used Within an RBA	None	0	0	0	\$0	As required	N/A	Cancellation	Radiation Protection
A/S Perform Air Pattern Survey (Smoke Test)	None	192	0	192	\$9,600	As required	N/A	Cancellation	Radiation Protection
Contamination survey in RCPM area of responsibility - 10% of office or storage areas not in RBA's	None	8	0	8	\$400	Annually	N/A	Cancellation	Radiation Protection
Contamination surveys around penetrations of tanks containing liquid.	None	32	0	32	\$1,600	Semi-annually	N/A	Cancellation	Radiation Protection
Contamination survey - On outside of ventilation exhaust screens located inside the RBA	None	26	0	26	\$1,300	Weekly	N/A	Cancellation	Radiation Protection
	Subtotal	4,814	0	4,814	\$240,700				
RCRA Supervisor refresher training	RCRA	48	24	24	\$1,200	All qualified employees annually	All qualified employees annually	Deferral or freq change	Environmental Compliance
Asbestos Inspections	HSP 9.09	240	80	160	\$8,000	Monthly	Quarterly	Deferral or freq change	Industrial Hygiene
Emerg. Generator, EG-1 Battery Surveillance	OSR	144	48	96	\$4,800	Monthly	Quarterly	Deferral or freq change	MTCE
Magnahelics Reading	OSR	1460	208	1252	\$62,600	Daily	Weekly (in	Deferral or	Production

(Gloveboxes)							service gloveboxes)	freq change	Operations
A/S - Air flow verifications, in downdraft tables, hoods, and gloveboxes	DOE Order 6430.1A	192	32	160	\$8,000	Monthly	Semi-annually	Deferral or freq change	Radiation Protection
Contamination survey in vicinity of criticality drain sample connections.	10CFR835	96	48	48	\$2,400	Monthly	Bi-monthly	Deferral or freq change	Radiation Protection
Contamination surveys in eating area in building containing RBA	10CFR835	365	52	313	\$15,650	Daily	Weekly	Deferral or freq change	Radiation Protection
Contamination surveys at contamination control point, change areas, and step off pads in high use areas	10CFR835 RCM Art 554.1c	6570	2190	4380	\$219,000	Shiftly	Daily	Deferral or freq change	Radiation Protection
Gamma survey at the boundary of temporary radiation areas	10CFR835 RCM Art 552	0	0	0	\$0	Weekly	Monthly	Deferral or freq change	Radiation Protection
Gamma survey on potentially contam. ducts, piping, hoses outside facility	10CFR835 RCM Art 552	0	0	0	\$0	Monthly	Quarterly	Deferral or freq change	Radiation Protection
Gamma survey at installed temporary shielding	10CFR835 RCM Art 314.3/6	0	0	0	\$0	Monthly	Quarterly	Deferral or freq change	Radiation Protection
Gamma survey on tanks with liquids	N/A	16	4	12	\$600	Quarterly	Annually	Deferral or freq change	Radiation Protection
	Subtotal	9,131	2,686	6,445	\$322,250				
Initial RCRA Training - 40Hr RCRA	RCRA	70	40	30	\$1,500	New employees	New employees	Further eval needed	Environmental Compliance
RCRA inspection of storage and treatment tanks	RCRA Part B Permit	5800	826	4974	\$248,700	Daily	Weekly	Further eval needed	Environmental Compliance
Recording and reporting the consumption of Diesel Fuel for emergency generators	Clean Air Permit	60	10	50	\$2,500	Monthly	Semi-annually	Further eval needed	Environmental Compliance
RCRA inspection of ancillary tanks (OVHD)	RCRA Permit; PADG-94-00283; CO 93-04-23-1	730	104	626	\$31,300	Daily	Weekly	Further eval needed	Environmental Compliance
Inspection of PCB Storage Areas	40CFR761	24	12	12	\$600	Monthly	Monthly - reduced scope	Further eval needed	Environmental Compliance
Tank surveillance in 247	40CFR125.104	6	3	3	\$150	Monthly	Bi-monthly	Further eval needed	Environmental Compliance
RCRA ceiling tile inspection	RCRA Permit; PADG-94-00283; 6.1-c	144	72	72	\$3,600	Monthly	Bi-monthly	Further eval needed	Environmental Compliance
RCRA Management of glovebox	RCRA Permit 6-CCR-1007-3; 262.34	208	104	104	\$5,200	Bi-weekly	Monthly	Further eval needed	Environmental Compliance
Flow Test Plenum	DOE Order 5480.7A, NFPA	0	0	0	\$0	Semi-annually		Further eval needed	Fire System Services
Safety Shower	Manufacturers	1044	241	803	\$40,150	Weekly	Monthly	Further	Industrial

Inspection	Recommendation and ANSI STD							eval needed	Hygiene
Whitney Punch - Check Oily Hoses	Historical Failure	12	12	0	\$0	Monthly	As required	Further eval needed	MTCE
Inspect Outside Building Lights	Historical Failure	240	160	80	\$4,000	Monthly	Bi-monthly	Further eval needed	MTCE
Whitney Punch - Change Oil	Historical Failure	2	1	1	\$50	Annually	Bi-annually	Further eval needed	MTCE
Glovebox Alarm Panel Watch	COOP/OSR	160	0	160	\$8,000	Yearly	N/A	Further eval needed	Production Operations
Minimum Combustible Loading Inspections	USQD 771-96-0880-BAV Rev 2	416	208	208	\$10,400	Weekly	Weekly	Further eval needed	Production Operations
Bldg 771/774 Transfer Line RCRA Inspection	RCRA Part B Permit	96	32	64	\$3,200	Monthly	Quarterly	Further eval needed	Production Operations
Glovebox Scale Pass Through Checks	OSR	48	48	0	\$0	Monthly	Monthly	Further eval needed	Production Operations
Criticality Drain Overflow Checks	Nuclear Criticality Safety	288	257	31	\$1,550	Monthly	Monthly (in service gloveboxes only)	Further eval needed	Production Operations
GBO-11 Alarm Panel Fire Watch	OSR 7.4.4.3	960	854	106	\$5,300	Yearly	Yearly	Further eval needed	Production Operations
Tank RCRA Inspections	RCRA Part B Permit	5840	832	5008	\$250,400	Daily	Weekly	Further eval needed	Production Operations
RCRA Inspections, Glovebox, Non-nuclear	RCRA Part B Permit	416	0	416	\$20,800	Weekly	N/A (following cleanout)	Further eval needed	Production Operations
Nuclear Criticality Assessment	DOE Order 5480.24; ANSI STD 8.1, 8.19	480	428	52	\$2,600	Monthly	Monthly (in service gloveboxes)	Further eval needed	Production Operations
A/S - Prior to deposing of an airborne rad area	10CFR835 RCM Art. 555.1	1040	520	520	\$26,000	As required	As required	Further eval needed	Radiation Protection
Contamination survey during initial entry into a CA	10CFR835 RCM Art. 554.1.i	0	0	0	\$0	As required	As required	Further eval needed	Radiation Protection
Contamination survey prior to and following work with RAM (welding, grinding, cleaning w/volatile so	10CFR835 ALARA Program Plan	0	0	0	\$0	As required	As required	Further eval needed	Radiation Protection
Contamination survey of areas adjacent to the contam. filter plenums when occupied	10CFR835 RCM Art. 554	1095	52	1043	\$52,150	Shiftly	Weekly	Further eval needed	Radiation Protection
Gamma survey on operating HEPA vent systems	10CFR835 Art. 552.1.D	78	18	60	\$3,000	Weekly	Monthly	Further eval needed	Radiation Protection
Contamination surveys on portable downdraft units and rad vacuums.	10CFR835 RCM Art. 464.4	96	16	80	\$4,000	Monthly	Semi-annually	Further eval needed	Radiation Protection
Contamination surveys in office areas located within the RBA	10CFR835 RCM Art. 554.1.D	365	52	313	\$15,650	Daily	Weekly	Further eval needed	Radiation Protection

Emer Diesel Gen Availability	OSR	99	99		\$0	Annually		Further eval needed	Utilities
	Subtotal	19,817	5,001	14,816	\$740,800				
Measurement of DP across HEPA	ANSI-N510-1989	0	0	0	\$0	Every 18 months	Every 18 months	No further eval needed	Environmental Compliance
PCB/TSCA Reporting	40CFR761	4	4	0	\$0	Annually	Annually	No further eval needed	Environmental Compliance
Stratospheric Ozone Protection	5-CCR-1001-19	192	192	0	\$0	Semi-annually	Semi-annually	No further eval needed	Environmental Compliance
Visible emissions testing of the diesels	Air Permit #93JE1349	4	4	0	\$0	Annually	Annually	No further eval needed	Environmental Compliance
RCRA Management of container storage areas	RCRA Permit 6-CCR-1007-3	104	104	0	\$0	Weekly	Weekly	No further eval needed	Environmental Compliance
RCRA Management of satellite storage accumulation areas	RCRA Permit 6-CCR-1007-3, 262;34	312	312	0	\$0	Weekly	Weekly	No further eval needed	Environmental Compliance
RCRA management of 90 day accumulation areas	CO Code of Federal 6 CCR-1007-3; 262.34	104	104	0	\$0	Weekly	Weekly	No further eval needed	Environmental Compliance
Waste Environmental Management System	RCRA Permit 91-09-30-01 CDPHE	1372	1372	0	\$0	Monthly	Monthly	No further eval needed	Environmental Compliance
TSCA Inspection of waste overpacks	40CFR761	8	8	0	\$0	Quarterly	Quarterly	No further eval needed	Environmental Compliance
Chemical Inventory	40CFR302,355, 370; 29CFR1910	160	160	0	\$0	Annually	Annually	No further eval needed	Environmental Compliance
RCRA Idle Equipment	RCRA	12	12	0	\$0	Bi-monthly	Bi-monthly	No further eval needed	Environmental Compliance
Sprinkler System 2" Drain Inspection Test	DOE Order 5480.7A, NFPA	108	108	0	\$0	Quarterly	N/A	No further eval needed	Fire System Services
Glovebox Overheat Detection	DOE Order 5480.7A, NFPA	1000	1000	0	\$0	Monthly	N/A	No further eval needed	Fire System Services
Filter Plenum Heat Detection System	DOE Order 5480.7A, NFPA	864	864	0	\$0	Quarterly	N/A	No further eval needed	Fire System Services
Test Dry Chemical in Contamination Control Cell	DOE Order 5480.7A, NFPA	6	6	0	\$0	Annually	N/A	No further eval needed	Fire System Services
Visually Inspect Contamination Control Cell	DOE Order 5480.7A, NFPA	6	6	0	\$0	Semi-annually	N/A	No further eval needed	Fire System Services
Visual Verification of Fire Phones and Bldg Bells	DOE Order 5480.7A, NFPA	30	30	0	\$0	Semi-annually	N/A	No further eval needed	Fire System Services
Verification of Fire Phones and Bldg Bells Operability	DOE Order 5480.7A, NFPA	27	27	0	\$0	Annually	N/A	No further eval needed	Fire System Services
Sprinkler Valve Lineup	DOE Order 5480.7A, NFPA	96	96	0	\$0	Monthly	N/A	No further eval needed	Fire System Services
Visual Inspection of Fire Alarm Panels	DOE Order 5480.7A, NFPA	2	2	0	\$0	Monthly	N/A	No further eval	Fire System Services

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Fire Extinguisher Inspections	DOE Order 5480.7A, NFPA	54	54	0	\$0	Annually	N/A	No further eval needed	Fire System Services
Annual Hazard and Deficiency Assessment	BFO/HSP 1.06	80	80	0	\$0	Yearly	N/A	No further eval needed	Industrial Hygiene
Lockout/Tagout Review	29 CFR 1910 part 147	416	416	0	\$0	Monthly	N/A	No further eval needed	Industrial Hygiene
Senior Supervisory Watch	Operations Order	108	108	0	\$0	As needed	N/A	No further eval needed	Industrial Hygiene
Annual Confined Space Audit	29 CFR 1910 part 146	24	24	0	\$0	Yearly	N/A	No further eval needed	Industrial Hygiene
UPS Load Test and Verify Output Voltage	OSR	36	36	0	\$0	Annually	N/A	No further eval needed	MTCE
Load Test Elevator	OSHA	36	36	0	\$0	Semi-annually	N/A	No further eval needed	MTCE
Check Emergency Exit Lights	NFPA	288	288	0	\$0	Monthly	N/A	No further eval needed	MTCE
Inter resistance check of batteries and connectors	IEEE	96	96	0	\$0	Quarterly	N/A	No further eval needed	MTCE
Roll-up Fire Door Test	NFPA	12	12	0	\$0	Annually	N/A	No further eval needed	MTCE
Anti-freeze loops	NFPA	30	30	0	\$0	Annually	N/A	No further eval needed	MTCE
EGEN Spec. Gravity each battery cell	OSR	144	144	0	\$0	Quarterly	N/A	No further eval needed	MTCE
UPS - Verify Battery Voltage Surveillance	OSR	96	96	0	\$0	Monthly	N/A	No further eval needed	MTCE
Minimum Combustible Loading	Operations Order	104	104	0	\$0	Weekly	N/A	No further eval needed	MTCE
Rm 179 Roving Fire Watch	OSR	168	168	0	\$0	Hourly	N/A	No further eval needed	Production Operations
RCRA Inspection Nuclear (Glovebox)	RCRA Part B Permit	108	108	0	\$0	Bi-monthly	N/A	No further eval needed	Production Operations
Glovebox Criticality Drain Fill	Glovebox Design Technical Manual	416	416	0	\$0	Bi-weekly	N/A	No further eval needed	Production Operations
Fire Safety Inspection	NFPA/OSHA	60	60	0	\$0	Monthly	N/A	No further eval needed	Production Operations
Contamination survey as part of RWP requirements	10CFR835 RCM RWP	0	0	0	\$0	As required	As required	No further eval needed	Radiation Protection
Cont. survey prior to transfer of equip/material from one RBA to another	10CFR835 RCM Art. 423.2	0	0	0	\$0	As required	As required	No further eval needed	Radiation Protection

Cont. survey prior to transfer of equip. from HCA >CA; or CA>clean area	10CFR835 RCM Table 2.2	0	0	0	\$0	As required	As required	No further eval needed	Radiation Protection
Cont. survey on outside of bag containing contam equip. prior to moving from hi to low contam. area	10CFR835 RCM Table 2.2	0	0	0	\$0	As required	As required	No further eval needed	Radiation Protection
Gamma survey in vaults containing SNM	10CFR835	6	6	0	\$0	Monthly	Monthly	No further eval needed	Radiation Protection
Contamination survey when breaching a contamination/potential ly contaminated system	10CFR835 RCM RWP	0	0	0	\$0	As required	As required	No further eval needed	Radiation Protection
Gamma survey in HRA's	10CFR835 RCM Art. 552	39	39	0	\$0	Weekly	Weekly	No further eval needed	Radiation Protection
Contamination surveys in vaults containing SNM.	10CFR835 RCM Art. 554.1.G	26	26	0	\$0	Weekly	Weekly	No further eval needed	Radiation Protection
Contamination surveys in occupied CA's and adjacent areas	10CFR835 RCM Art. 554.1.G&H	52	52	0	\$0	Weekly	Weekly	No further eval needed	Radiation Protection
Contamination survey in occupied HCA's and adjacent areas	10CFR835 RCM Art. 554.1.G&H	52	52	0	\$0	Weekly	Weekly	No further eval needed	Radiation Protection
Contamination surveys in areas where RAM is handled or stored	10CFR835 RCM Art. 554.1.G	26	26	0	\$0	Weekly	Weekly	No further eval needed	Radiation Protection
Contamination surveys in decon rooms and facilities	10CFR835 RCM Art. 554.1.G	39	39	0	\$0	Weekly	Weekly	No further eval needed	Radiation Protection
Contamination survey on the outside of rad sources.	10CFR835, DOE Order N441.1	16	16	0	\$0	Semi-annually	Semi-annually	No further eval needed	Radiation Protection
Contamination survey following a leak or spill	10CFR835 RCM Art. 554.1.J	0	0	0	\$0	As required	As required	No further eval needed	Radiation Protection
Gamma survey in areas where RAM is handled and stored	10CFR835 RCM Art. 552	0	0	0	\$0	Monthly	Monthly	No further eval needed	Radiation Protection
A/S - In area where annual intake >40 DAC-Hrs	10CFR835 RCM Art 555.2	0	0	0	\$0	As required	As required	No further eval needed	Radiation Protection
Gamma survey for initial entry into an HRA.	10CFR835 RCM 552.1.C	0	0	0	\$0	As required	As required	No further eval needed	Radiation Protection
Gamma survey prior to and following temporary shielding installation	10CFR835 RCM	0	0	0	\$0	As required	As required	No further eval needed	Radiation Protection
Gamma survey when operating a rad-generating device	10CFR835 RCM 552.3	0	0	0	\$0	As required	As required	No further eval needed	Radiation Protection
Gamma survey periodically during work with RAM as specified in RWP	10CFR835 RCM	0	0	0	\$0	As required	As required	No further eval needed	Radiation Protection
Gamma surveys in routinely occupied areas of the RBA and RA's	10CFR835 RCM Art. 552	39	39	0	\$0	Weekly	Weekly	No further eval needed	Radiation Protection

Contamination survey to detect fixed contamination that may have become removable over time.	10CFR835	96	96	0	\$0	Monthly, Quarterly	Monthly, Quarterly	No further eval needed	Radiation Protection
Contamination survey at contamination control points, change areas, and step off pads in normal use	10CFR835 RCM Art. 554.1.c		0	0	\$0	Daily	N/A	No further eval needed	Radiation Protection
A/S - Prior to removing Respiratory Protection	10CFR835 RCM Art. 555	0	0	0	\$0	As required	As required	No further eval needed	Radiation Protection
Contamination survey in routinely occupied RBA's	10CFR835 RCM Art 554.1.F	52	52	0	\$0	Weekly	Weekly	No further eval needed	Radiation Protection
A/S - When breaching an unknown or contaminated system o/s a primary containment	10CFR835 RCM Art 555.1	0	0	0	\$0	As required	As required	No further eval needed	Radiation Protection
Gamma survey at boundary of HRA's and VHRA's	10CFR835 RCM App. 3B	26	26	0	\$0	Weekly	Weekly	No further eval needed	Radiation Protection
A/S - In area where airborne activity can fluctuate due to work activity.	10CFR835 RCM RWP	0	0	0	\$0	As required	As required	No further eval needed	Radiation Protection
Building 771 Control room watch	DOE O 5480.19	8760	8760	0	\$0	Shiftly	N/A	No further eval needed	Utilities
Emer Diesel Load Test	OSR	960	960	0	\$0	Monthly	N/A	No further eval needed	Utilities
Rotate Zone Axial Fans	OSR	72	72	0	\$0	Monthly	N/A	No further eval needed	Utilities
Fan Operability - Acuate Controls	OSR	1600	1600	0	\$0	Annually	N/A	No further eval needed	Utilities
Building 771 Inside and Outside Rounds	DOE O 5480.19	17520	17520	0	\$0	Shiftly	N/A	No further eval needed	Utilities
	Subtotal	36068	36068	0	\$0				
	TOTAL	69,830	43,755	26,075	\$1,303,750				

Note 1: The 69,830 man-hours represents the number of man-hours associated with all of the evaluated activities for which the team was able to ascertain the number of man-hours expended on an activity (i.e., 27 task has 0 in the Pre-Review Man-hours column). Had the man-hours for these tasks be accounted for, the 69,830 man-hours column would have been significantly greater and most likely closer to the estimated 91,000 man-hours as shown on Attachment 1. Additionally, because of the latter, the "Estimated Potential Resources Savings in M-Hrs/Yr" column could have also been significantly greater.

Note 2: The \$50/hr was quoted by the facility as a figure they are allowed to take credit for when labor savings are identified by the facility. The team was informed by the facility that the \$50/hr average rate was the direct "burdened" cost of maintaining an employee (cost of pension, payroll taxes, insurance, sick leave, training, etc). Based on the "Estimated Potential Resources Savings in M-Hrs/Yr" the potential annual savings is approximately \$1.3M out of about \$4.5M (see Attachment 1) in annual S&M activities reviewed.